

Figure 1
(PRIOR ART)

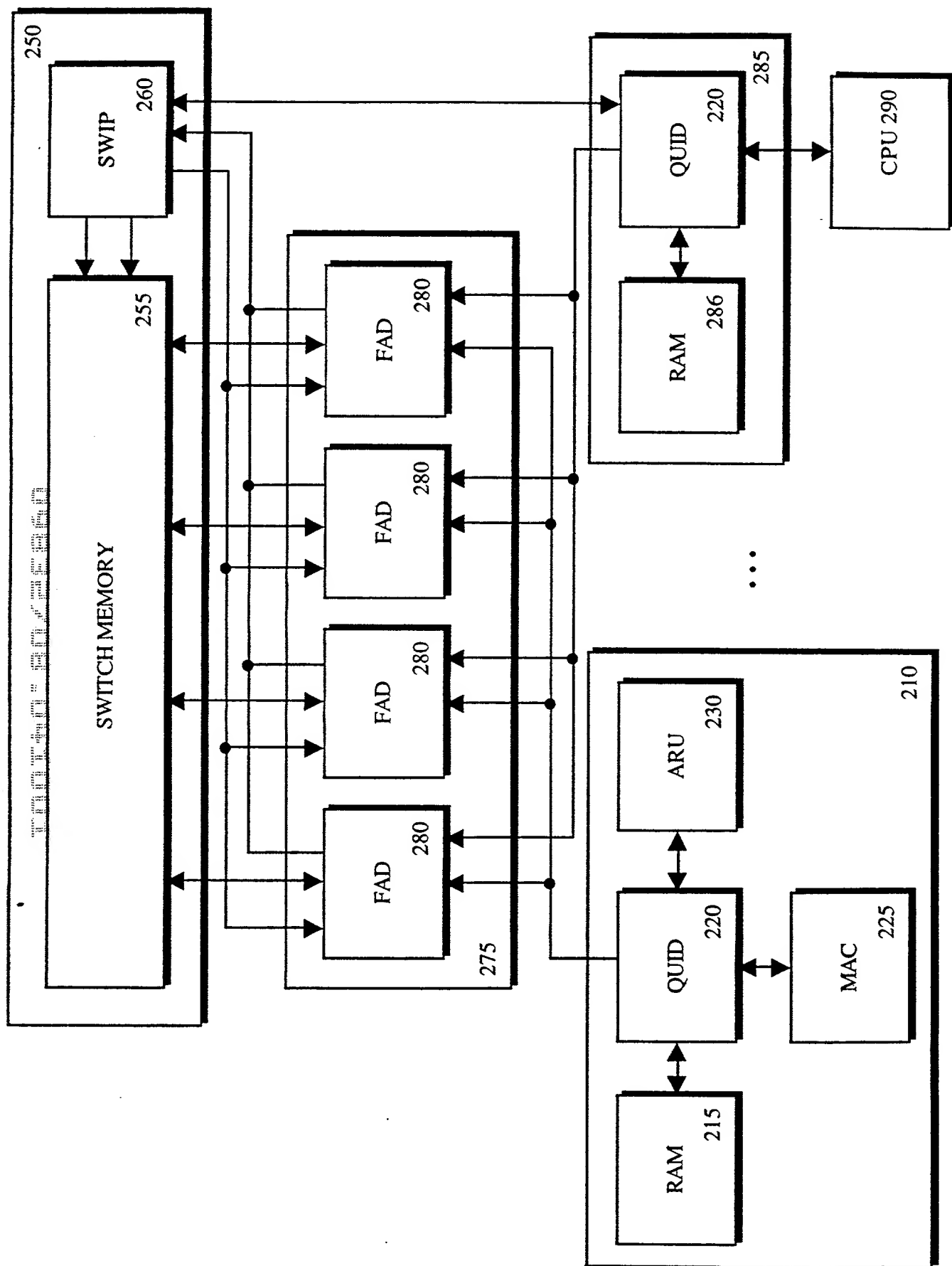


Figure 2

310	Destination Address: 11.1.2.65	= 00001011.00000001.00000010.01000001
320	Route #1	= <u>00001011.00000001.00000010.00000000</u>
330	Route #2	= <u>00001011.00000001.00000000.00000000</u>
340	Route #3	= <u>00001011.00000000.00000000.00000000</u>

FIG. 3

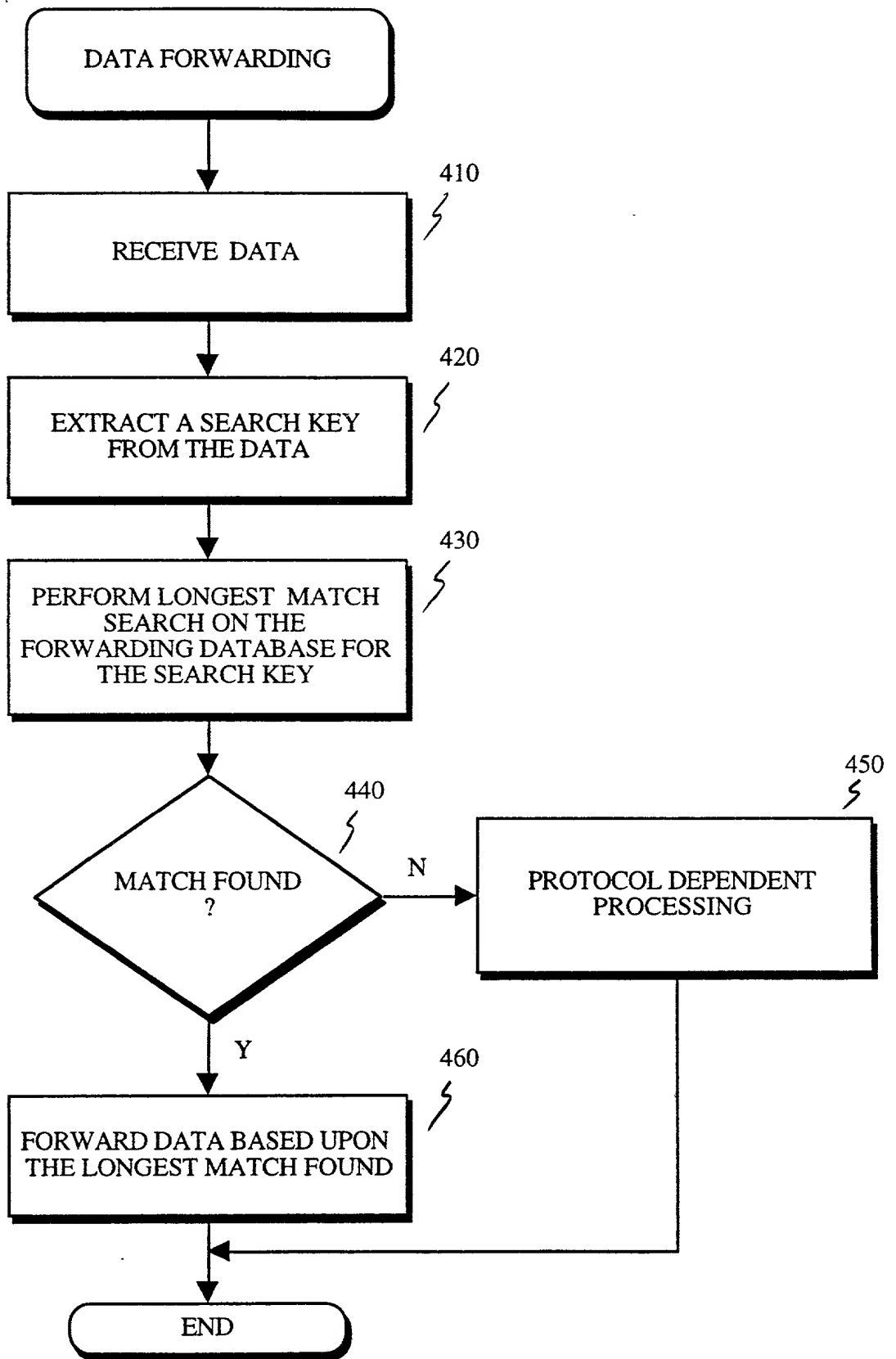


Figure 4

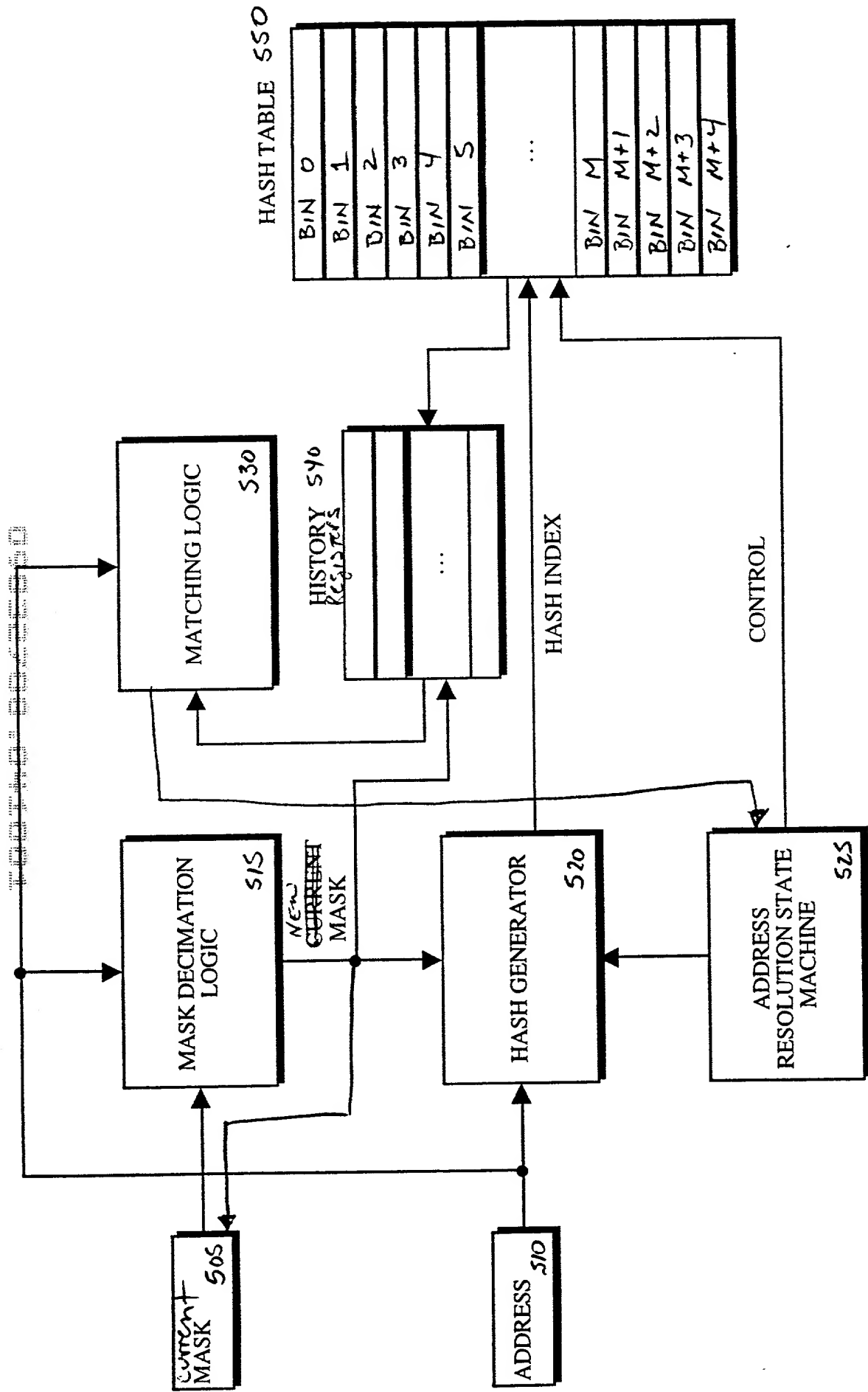


Figure 5

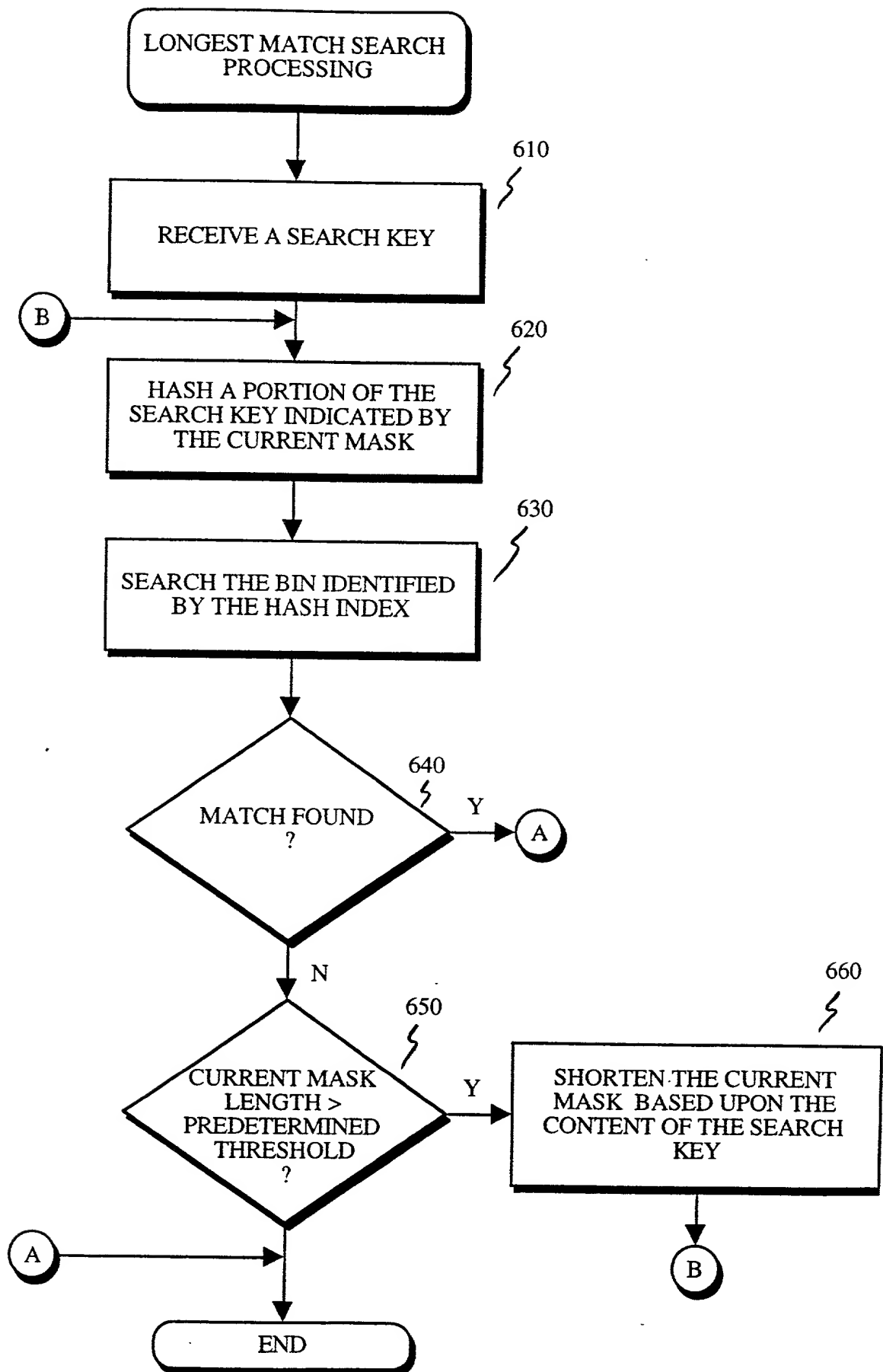


Figure 6

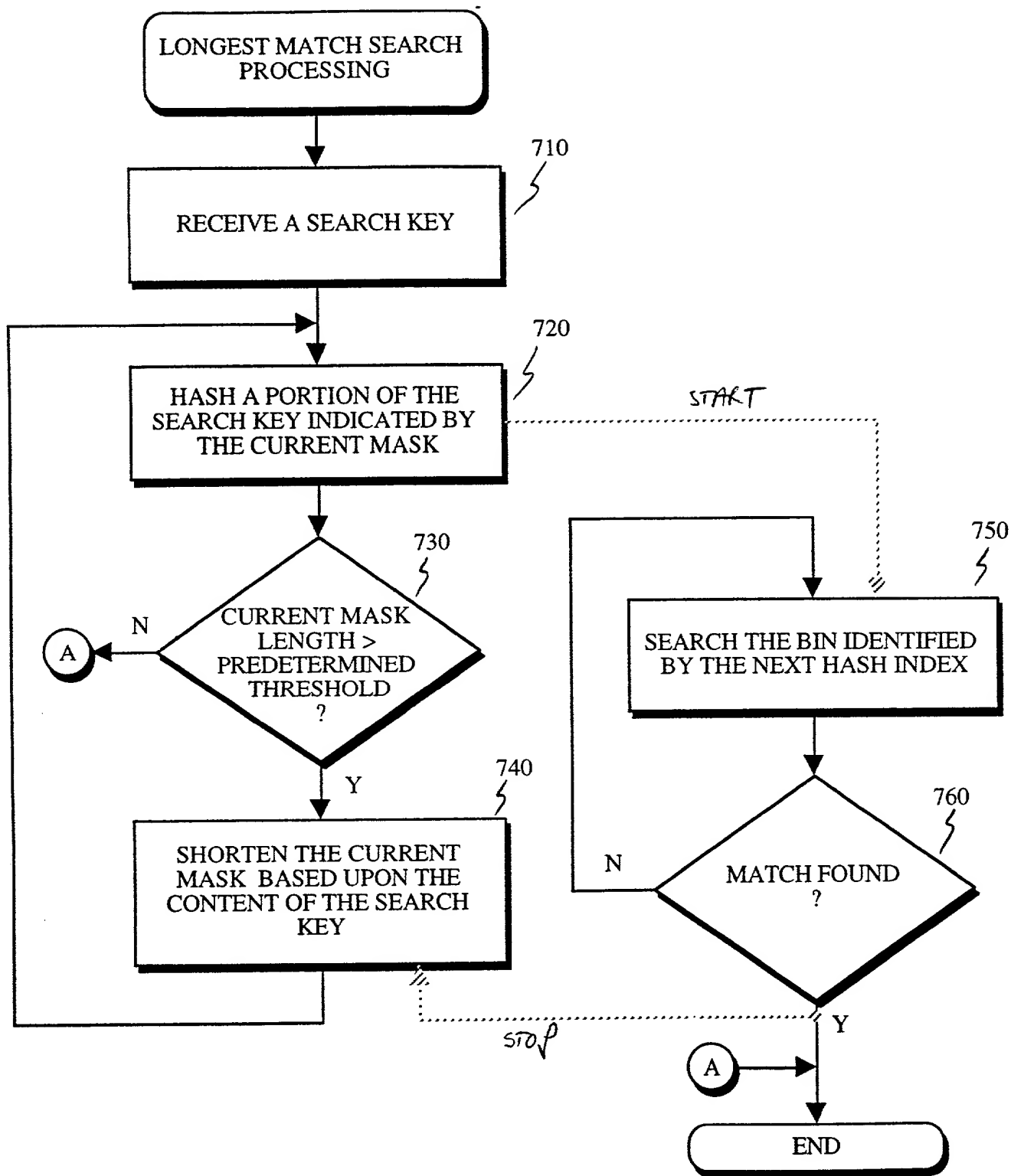


Figure 7

		MSB		LSB
810	Search Key:	00001011	.00000001.00000010.01000001	1
820	Current Mask:	11111111	.11111111.11111111.11111111	10
830	Next Mask:	11111111	.11111111.11111111.10000000	0

Bit position		31	24	16	8	0

FIG. 8

Bit-wise Mask Decimation

Address (hex)	Iteration	Mask (hex)	Masked Address (hex)
0B 01 02 41	1	FF FF FF FF	0B 01 02 41
	2	FF FF FF FE	0B 01 02 40
	3	FF FF FF FC	0B 01 02 40
	4	FF FF FF F8	0B 01 02 40
	5	FF FF FF F0	0B 01 02 40
	6	FF FF FF E0	0B 01 02 40
	7	FF FF FF C0	0B 01 02 40
	8	FF FF FF 80	0B 01 02 00

← Match

FIG. 9

Address-sensitive Mask Decimation

Address (hex)	Iteration	Mask (hex)	Masked Address (hex)
0B 01 02 41	1	FF FF FF FF	0B 01 02 41
	2	FF FF FF FE	0B 01 02 40
	3	FF FF FF 80	0B 01 02 00
	4	FF FF 00 00	0B 01 00 00
	5	FF 00 00 00	0B 00 00 00

← Match

FIG. 10

Address	...	Mask
00011000 00010000 00000010 00000000		11111111 11111111 11111111 00000000
00011000 00010000 00000000 00000000		11111111 11111111 00000000 00000000
...		
00011000 00000000 00000000 00000000		11111111 00000000 00000000 00000000

~ 110
~ 115
~ 120

FIG. 11A (PRIOR ART)

Address	...	Mask Length
00011000 00010000 00000010 00000000		11000
00011000 00010000 00000000 00000000		01000
...		
00011000 00000000 00000000 00000000		00100

~ 1125
~ 1130
~ 1135

FIG. 11B (PRIOR ART)

Address + MASK INFORMATION	...
00011000 00010000 00000010 10000000 0	
00011000 00010000 10000000 00000000 0	
...	
00011000 10000000 00000000 00000000 0	

~ 1140
~ 1145
~ 1150

FIG. 11C